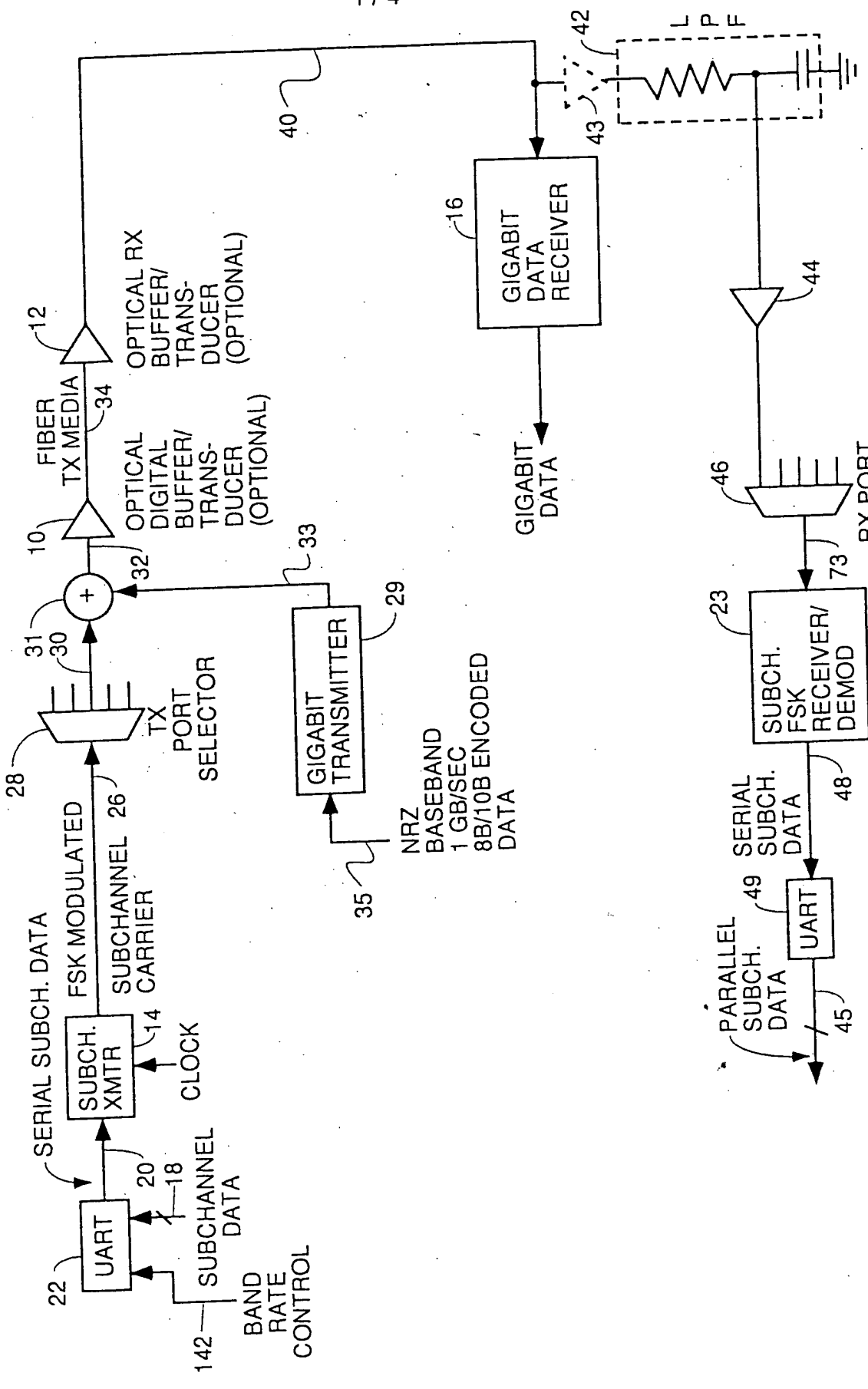
SERIAL SUBCH. DATA
UART
22
SUBCHANNEL DATA
18
20
BAND RATE CONTROL
142
SUBCH. XMTR
14
CLOCK
FSK MODULATED SUBCHANNEL CARRIER
26
28
TX PORT SELECTOR
30
31
+
32
33
GIGABIT TRANSMITTER
29
NRZ BASEBAND 1 GB/SEC 8B/10B ENCODED DATA
35
10
OPTICAL DIGITAL BUFFER/ TRANS-DUCER (OPTIONAL)
FIBER TX MEDIA
34
12
OPTICAL RX BUFFER/ TRANS-DUCER (OPTIONAL)
40
GIGABIT DATA
GIGABIT DATA RECEIVER
16
42
43
L P F
44
46
RX PORT SELECT
73
SUBCH. FSK RECEIVER/ DEMOD
23
SERIAL SUBCH. DATA
48
UART
49
PARALLEL SUBCH. DATA
45

FIG. 1

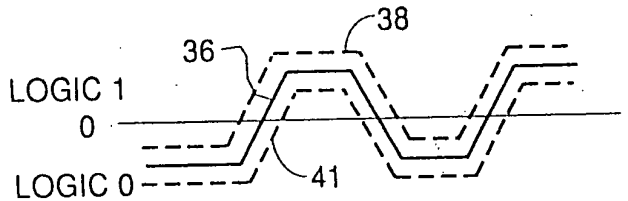


FIG. 2

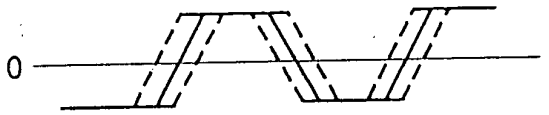


FIG. 3

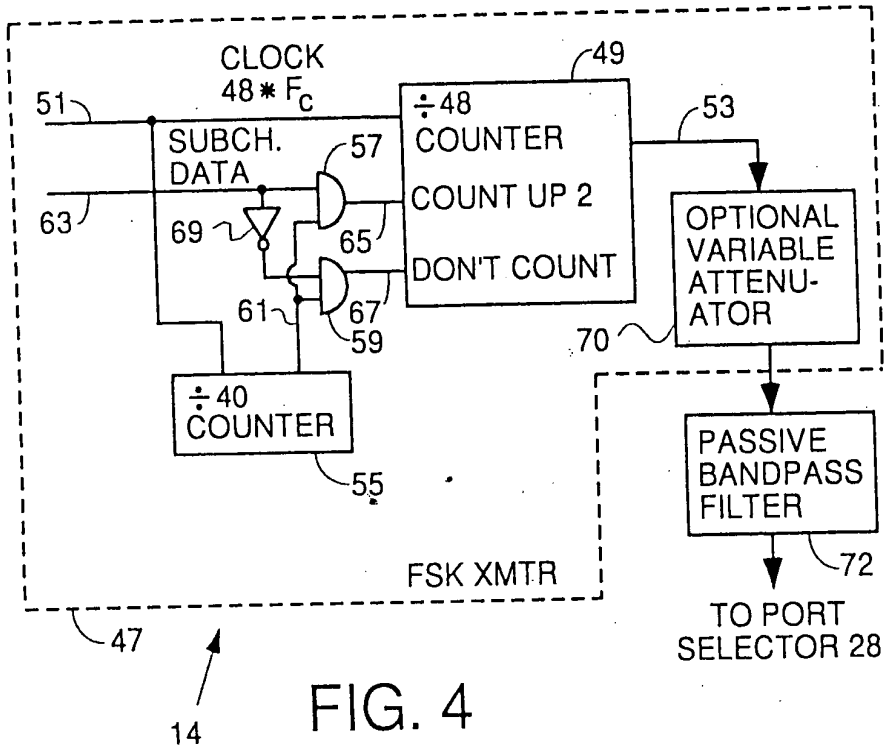


FIG. 4

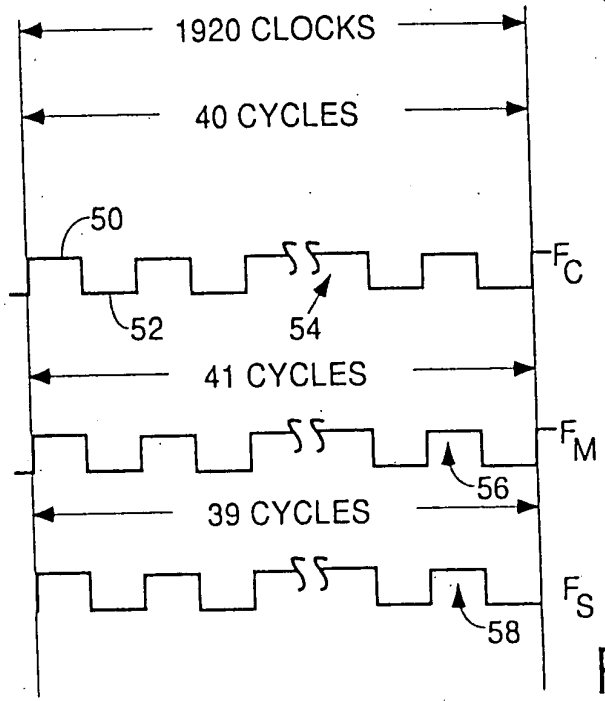


FIG. 5

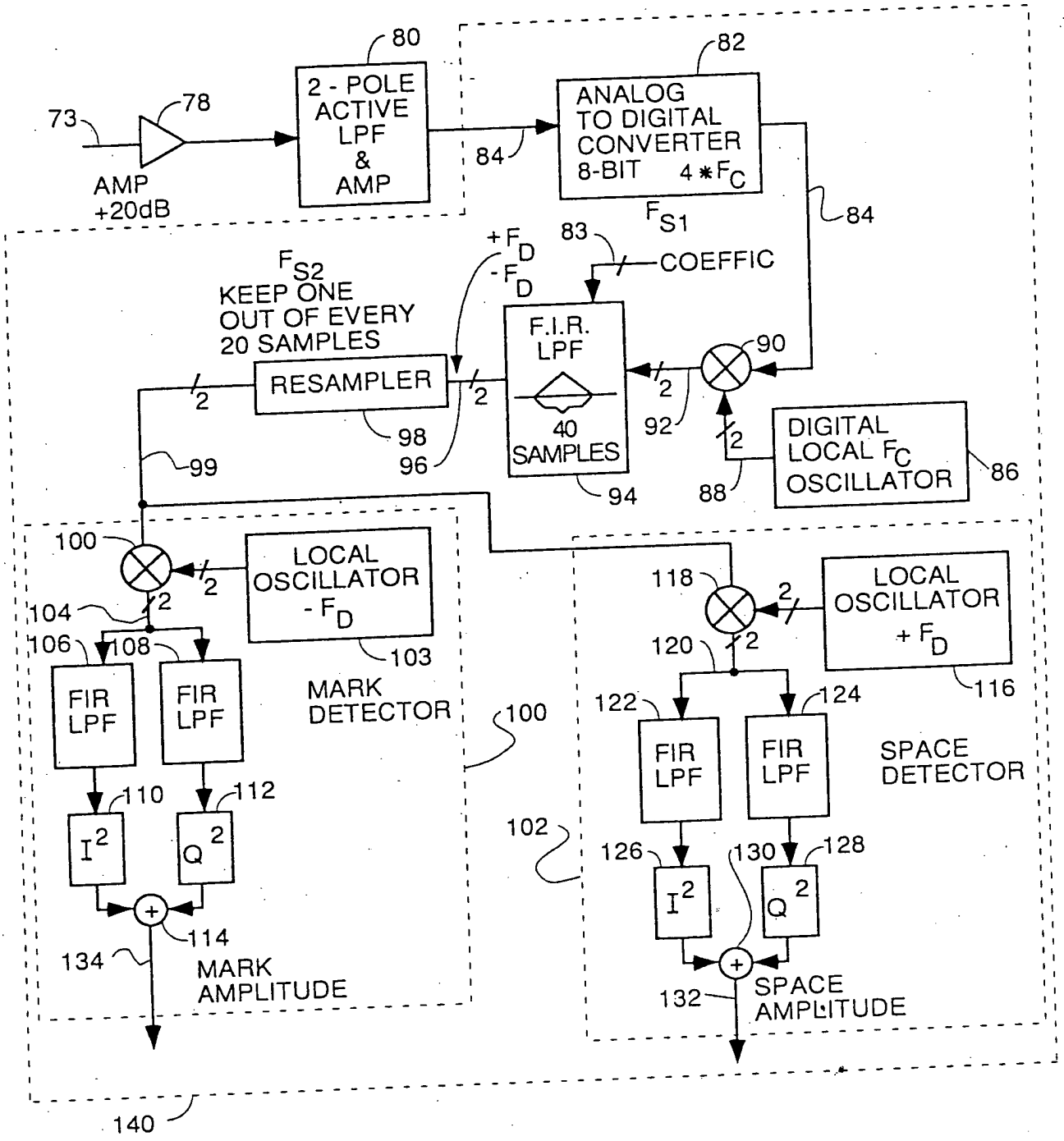
80
82
73
78
2 - POLE ACTIVE LPF & AMP
ANALOG TO DIGITAL CONVERTER 8-BIT 4 * $F_C$
84
AMP +20dB
$F_{S1}$
84
+ $F_D$
- $F_D$
83
COEFFIC
$F_{S2}$ KEEP ONE OUT OF EVERY 20 SAMPLES
F.I.R. LPF
90
RESAMPLER
2
2
2
98
96
40 SAMPLES
92
94
DIGITAL LOCAL $F_C$ OSCILLATOR
88
86
99
100
LOCAL OSCILLATOR - $F_D$
103
104
106
108
FIR LPF
FIR LPF
MARK DETECTOR
100
110
112
$I^2$
$Q^2$
114
134
MARK AMPLITUDE
118
LOCAL OSCILLATOR + $F_D$
116
120
122
124
FIR LPF
FIR LPF
SPACE DETECTOR
102
126
130
128
$I^2$
$Q^2$
132
SPACE AMPLITUDE
140

FIG. 6

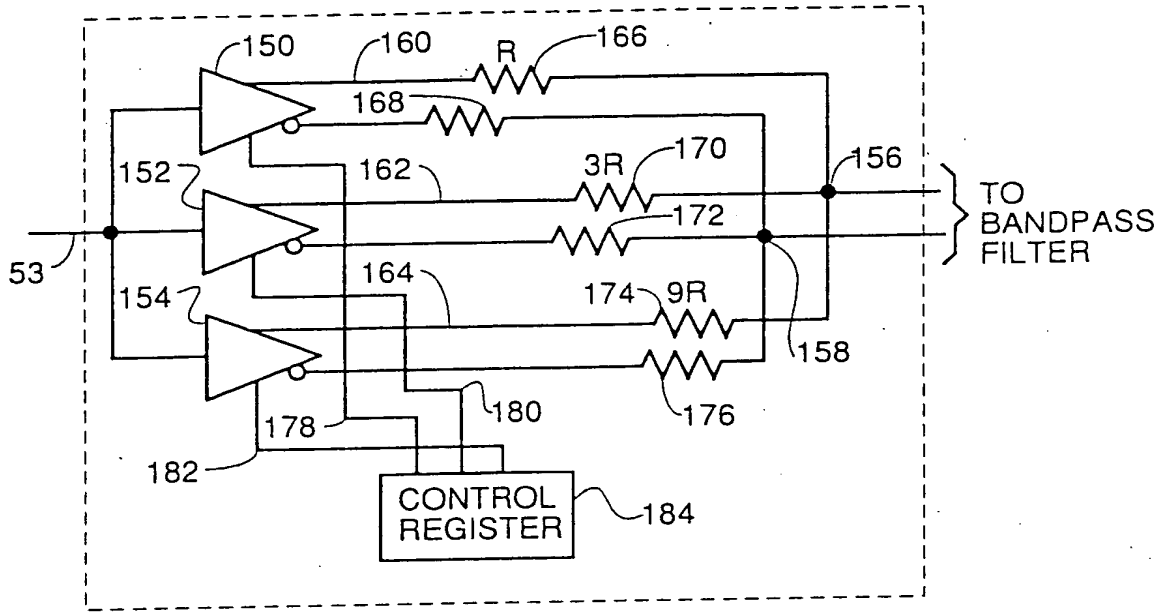
150
160
R
166
168
152
162
3R
170
156
172
TO
BANDPASS
FILTER
53
154
164
174
9R
158
176
178
180
182
CONTROL
REGISTER
184

FIG. 7